R E P O R T R E S U M E S

ED 012 503 EA 000 598

A COMPARATIVE ANALYSIS OF THE RESEARCH UTILIZATION PROCESS.

BY- LIPPITT, RONALD AND OTHERS

PUB DATE 18 FEB 66

EDRS PRICE MF-$0.25 HC-$1.12 28P.

DESCRIPTORS- *RESEARCH UTILIZATION, *EDUCATIONAL RESEARCH, *MODELS, *COMMUNICATION PROBLEMS, *ADOPTION (IDEAS), RESEARCH PROBLEMS, RESEARCH AND DEVELOPMENT CENTERS, AGRICULTURE, EDUCATIONAL CHANGE, EDUCATIONAL PRACTICE, TEACHERS, COMPARATIVE ANALYSIS, CHICAGO, AMERICAN EDUCATIONAL RESEARCH ASSOCATION

A SUGGESTED MODEL FOR ADEQUATE DISSEMINATION OF RESEARCH FINDINGS CONSIDERS FOUR PRIMARY BARRIERS TO EFFECTIVE COMMUNICATION--(1) DIVISION OF PERSONNEL LABOR INTO TASK ROLES, (2) INSTITUTIONAL DISTINCTIONS, (3) DEVELOPMENT OF PROFESSIONAL REFERENCE GROUPS, AND (4) GEOGRAPHICAL DIVISIONS. SUGGESTED SOLUTIONS INCLUDE LINKING SYSTEMS AND ROLES, SPECIALIZED COMMUNICATIONS MEDIA, AND THE DEVELOPMENT OF NEW INCLUSIVE SYSTEMS WHICH WOULD ENABLE RESEARCHERS AND PRACTITIONERS TO BE PARTS OF THE SAME ORGANIZATION. THROUGH LAND-GRANT, COLLEGE EXTENSION PROGRAMS AND THE COUNTY AGENT PLAN, AGRICULTURE SERVES AS A MODEL FOR INCLUSION OF BASIC AND APPLIED RESEARCH IN A COMMON SYSTEM WITH AGRICULTURAL PRACTITIONERS. MEDICINE SERVES SIMILARLY AS A PROFESSIONAL MODEL. SIX MAJOR DIFFERENCES DISTINGUISH EDUCATIONAL RESEARCH FROM RESEARCH IN AGRICULTURE AND MEDICINE--(1) TEACHER PERFORMANCE IS A KEY VARIABLE, (2) ADOPTION OF A NEW PRACTICE USUALLY INVOLVES CHANGE IN CERTAIN CENTRAL CHARACTERISTICS OF THE PRACTITIONER, (3) ADOPTION REQUIRES GREATER ADAPTATION AND THE DEVELOPMENT OF AN INTERPERSONAL SUPPORT SYSTEM AS A CRUCIAL PART OF THE DISSEMINATION PROCESS, (4) TEACHERS HAVE LESS MOTIVATIONAL SUPPORT TO IMPROVE PRACTICES AND LESS COGNITIVE PERSPECTIVE ON ALTERNATIVES, (5) CRITERIA ARE LACKING FOR MEASURING RESULTANT PRODUCTIVITY, AND (6) PRACTITIONERS HAVE LITTLE RESPECT FOR RESOURCE TEAMS AND RESEARCH CENTERS. A GREATLY ENLARGED OUTREACH EFFORT IS NEEDED TO DISSEMINATE RESEARCH FINDINGS IN EDUCATION. THIS DOCUMENT IS MADE UP OF EXCERPTS FROM A SYMPOSIUM AT THE ANNUAL MEETING OF THE AMERICAN EDUCATIONAL RESEARCH ASSOCIATION (CHICAGO, FEBRUARY 18, 1966). (JK)

ED012503

OFFICE OF EDUCATION
THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL OFFICE OF EDUCATION POSITION OR POLICY.

A COMPARATIVE ANALYSIS OF THE RESEARCH UTILIZATION PROCESS

A symposium sponsored by the Research Utilization Committee at the Annual Meeting of the American Educational Research Association

Chicago, Illinois
February 18, 1966

Chairman: Ronald Lippitt, University of Michigan

Participants: Kenneth Benne, Boston University
Ronald Havelock, University of Michigan

(These are excerpts prepared by the Research Utilization Committee from a recording made at the session.)

"A Comparative Analysis of the Research Utilization Process" is one of the three sessions at this Annual Meeting organized and sponsored by the AERA Committee on Research Utilization, which is chaired by Professor Matthew B. Miles of Teachers College, Columbia University. The three of us want to report some of our experiences of two years ago when we tried a comparative study of the way in which knowledge is generated, disseminated, and utilized in different fields of professional practice. Among others, we interviewed informant teams from agriculture, from public health, from medicine, and from industry. We focused on those areas which seemed to have developed the best system of connections between knowledge generation through research activity - both basic and engineering research -- and linkage to practitioners.

We will describe some of the thinking about models of dissemination and utilization coming out of our analysis, then try to look at some of the additional complexities or different types of problems we see when we turn to education. We will discuss what seem to be

EA 000 598

some of the priority research questions if we inquire into research utilization in education. We've asked Ron Havelock to start us off.

Ronald Havelock: I'd like to divide my talk into two sections. First I will discuss the abstract model that you have on the first page of the chart I have distributed (ATTACHED). Then I will discuss some of the solutions that might be used to overcome linkage problems, mentioning some of the solutions that have been arrived at specifically in the fields of agriculture and medicine.

On the first page there are two models. The first one is really a detail of the second one, and I think it's pretty much self-explanatory. It is a general model and could be used to describe any sort of communications process. The terms "resource system" and "user system" are intended to be general concepts which could apply to any pair of units in the lower, more extended model. That is, the terms could cover the communications between the practitioner and the consumer or between the applied researcher and the practitioner. The relationships contain the same type of problems in a theoretical sense. In this model there are two elements, fundamentally. One of them is a "flow" element, represented by arrows. It is important to remember that the flow is two-way and that different kinds of information in this flow create different kinds of problems. The other two speakers will address themselves to these points.

I'd like to discuss in more detail the concept of "barrier," which is represented here by rectangles. Among the factors that create barriers, I might list four of major importance. First would be the separation of people into different task roles, the simple division of labor, w hich works to separate people into separate systems.

Second, and concomitantly with the first, we are likely to get an institutional division, that is, different institutions—schools, hospitals, research institutes—developing around these occupational groups. Third, we are likely to get the development of professional reference groups such as teachers associations or various scientific associations—which again lead to the formation of barriers of various sorts. Fourth and finally, in the division of people into separate groups we often get a geographical division of people performing different roles, which is also a major cause of barriers.

I don't want to go into all the barriers that could be listed, but I think two are worthy of special concern. One of them I call the "status" barrier and the other the "value" barrier. It frequently happens that when we have a division of labor, the people performing the research role, or the practice role, or whatever, will see themselves as performing the most significant role and as being superior to other people "further down the line". This discrepancy in status, or perceived status, does create problems. Possibly the major problem here is not the problem of status difference per se, but the problem of status confusion, ambiguity, and competition. There is certainly a good deal of research to indicate that when <u>small</u> differences in status are present, the status problem becomes much more salient and much more of a barrier to communication between people.

Now I want to say a few more words about the "value" difference. The kinds of values under which basic researchers operate are seen, at least by them, as fundamentally different from the kind of values under which practitioners operate. The values of the practitioner concerned with service, and with the "unique case", are quite at var-

iance with those of the basic researcher concerned with the development of general knowledge. I think that perhaps the worst problem with values is the fact that eachgroup tendsto view its values as absolutes that everybody should hold to. When we do not have common value bases, we can have serious problems with communications. A practitioner can isolate himself from the researcher by saying, "I just can't listen to anybody who doesn't have a concern for the unique case".

There are many other barriers which could be mentioned, such as motivational differences—each group that is represented here today, for example, has a different reason for its behavior. And we should not forget that different occupational languages-the special jargon which is developed for the very legitimate reason that professional people need to use precise terms with their colleagues—can block communication with people performing a different role.

I want to go on now to what might be the solutions to some of these barrier problems. I will list four here—there are many others—which I think are the most important. The first and most general is the use of the principle of inclusion—that is, a building up of new institutions or new reference groups which include other systems within themselves, so that a basic researcher and a practitioner can be part of the same organization or can share the same social setting. A second type of solution is the development of temporary linking systems. An example of this would be conferences or even research projects where basic researchers and practitioners collaborate on a particular problem for a limited period of time.

A third kind, and probably the most used—perhaps the most over-used—are the specialized media such as the flash-sheet, the newsletter, and various applied journals aimed at particular audiences. There are many problems with these media: for one thing, they tend to be "one way" communication; however, they can be used very effectively under some circumstances. The fourth kind of solution is the specialized linking role. Here we are talking of the permanent roles of people who have the full-time job of being communicators between researchers and practitioners, or between basic researchers and applied researchers, or between practitioners and consumers. These latter two roles are frequently forgotten for various reasons, one of which is the popularity of the notion that the applied researcher must get together with the practitioner. Now let us see how these principles are applied in the fields of agriculture and medicine.

I think that the land grant college represents par excellence the principle of inclusion in its placement of basic research departments and an applied research department (the agriculture department) within the same university setting and presumably on the same footing. Also, you have the inclusion principle employed in agriculture in that all the groups from the county agent to the extension specialist in the university are under one umbrella. They have a common allegiance to the Agricultural Extension Service. I think also that in agriculture you have a very effective use of specialized media. One medium particularly worth mentioning is the looseleaf manual which is the major link between the extension specialist and the county agent.

In a real sense, this is a living document in that new parts are added, old parts are t aken out, at very frequent intervals. It's a very useful tool in the hands of the county agent when he's in his discussions with the farmer. There are specialized farmer magazines, too, which provide a direct linkage between the university and the farmer. Of course, one may wonder how effective such specialized media would be if it were not for the presence of the county agent and his assistance in the system. We turn finally to the use of permanent linking roles in agriculture for which that system is most famous—those of the county agent and the extension specialist. I think that to a great extent the present prosperity of American agriculture is due to the county agent role and the complementary role of the extension specialist. But, we should remember that it has been a rocky road which agriculture required one hundred years to travel.

When we turn to medicine, we see some of the same principles employed but in an entirely different way. Let us consider first the inclusion principle. I think the university may be a less inclusive agency in medicine than in agriculture. The medical schools tend to be somewhat isolated from the natural science departments in the university and our interviews indicated that there was some difficulty in communication between the medical school and the natural science departments. The role of a natural scientist placed in a medical school is a very difficult, very marginal role. However, we do have a significant form of inclusion in the professional reference group in medicine. Certainly the Doctor of Medicine degree is a most significant identifying mark for people ranging all the way from basic

researchers to professors of practice to practitioners. Thus we have a professional grouping which is quite inclusive. Together with this we have what is a more important kind of inclusion, a psychological inclusion arising from a common value orientation—the primary orientation of people holding the Doctor of Medicine degree toward the healing of the sick. Temporary systems are frequently used in medicine. Typical are the conferences of the medical association, undoubtedly an effective means for at least some of the more ambitious and the more energetic practitioners to receive new research information. There are myriads of specialized media in medicine which I will not discuss. Instead, I would like to ask what sort of permanent linking roles are used in the medical system. There have been attempts frequently to develop extension specialists in medicine without much success. The role of permanent linker I think has fallen by default to representatives of the drug houses—the notorious "detail men"—who seem to be major carriers of information to the general practitioner, particularly the isolated practitioner. This suggests to me that here the principle of inclusion is breaking down. While theoretically it should be easy for the general practitioner to talk to colleagues—other people holding the M.D. degree—major status problems can be involved. The fear of loss of status by indicating to a colleague that one knows less than he does may be a serious interfering factor. The "detail man" in medicine has so much lower status than the physician that the physician has nothing to lose in communicating freely with him. Thus the drug house salesman can be a very useful helper.

I have an educational model here which I think uses the same

principles, but I'd like to leave it to consideration by the other speakers.

Lippitt: O.K., Ken, let's pick up on linking.

Kenneth Benne: Ron Havelock suggested the central importance of the linking function in getting adequate two-way communication between the different parts of any kind of utilization chain or system that one can conceive. Let's look at medicine. As far as I know, there is no journal which patients publish to communicate their needs to the practitioner. It is interesting, though, that in the absence of this we have developed mechanisms which "get in the hair" of the American Medical Association. We have a number of disease organizations. If you study the origin of these disease organizations-take the American Heart Association-you will find that very often the impetus to organize them locally comes either from cardiac patients or family members of cardiac patients. (These organizations develop their own character once they get organized nationally and start raising money.) It seems to me that these groups are trying to bend the medical system in the direction of some strongly felt need. Here we have an example of pressure from consumers or clients, attempting to influence medical practice, and in the long run, medical research, to give direct attention to some need the clients believe important.

Why don't doctors like these "cause health" organizations? Because the tendency of strong practitioners is to believe that because of their knowledge and evaluated experience, they know the needs of the client group or the consumer group better than the clients and consumers know those needs themselves. In a sense the practitioners do know best

because much medical knowledge stands on basic research which has been translated into applied research to create better ways of diagnosis as well as better ways of treatment. From this the doctor gets the notion that the client doesn't know his own needs as well as the doctor does. This is not entirely an irrational position.

On the other hand, I have been working with general practitioners on the problem of reticent clients who hesitate to furnish them information they need to know. The practitioner tells me, "The patient won't talk-or he tends to tell me what he thinks I want to hear rather than talk about his distress, his pain, his symptoms, his stresses as he experiences them." Thus I find that practitioners really are dependent on their clients, eventhough one might suppose that their knowledge (if they have it and if their detail men are good) would enable them to do an unassisted job of diagnosing what the patient needs and what knowledge and technology needs to be applied to his case. The clients or consumers have both a knowledge of their needs and a knowledge of what I would call their own living terrain that the medical practitioner is dependent upon if he is going to fit resource to need.

In other words, some degree of collaboration is necessary actually to complete the application of knowledge at the point of need. It is an actual case of interdependence. Now, it seems that this applies at almost any place you look in the chain. Often when applied researchers bring a problem to basic researchers, the basic men think they know how to state the problem so that it can be researched. They tend to say, "Come to school to us-become a psychologist, an educational psychologist, and then you'll be able to formulate questions that can tap

the accumulation of knowledge in psychology as well as applying psychological research. Again, I think there is some sense to this view. On the other hand, if one is thinking of applying knowledge, then the very shape which the problem takes in the mind of an applied researcher is important in thinking through the studies needed and the selections from the store of accumulated basic knowledge that should be made.

I'd like now to talk about education. I tend to regard the student as the client or consumer, yet I realize fully that the school and the teacher are also at times consumers of the resources of both applied educational research and of the basic research that undergirds it. Let's look at the student now. Do we have a danger of putting the student in the same position as the cardiac patient? Do we think that all we know about society and human development tells us more about students' needs than they can? If so, does this actually generate efforts on the part of students, if they're healthy, to find ways of increasing their power to influence educational practice? As they get more sophisticated in college, do they want to influence the shape of basic research, of applied research, and their relationship to the teaching practitioner function?

Lippitt: We call it "counter-dependent pathology".

Benne: Yes, we diagnose it as a "resistance". And it is a resistance to the notion that all useful information flows in one direction--namely outward from basic research. We often seek some way of getting around this resistance so that we can apply our better insight into what the need really is and into what knowledge and technology should be applied to meet it. We try to reduce the resistance. Anybody

in education or therapeutic work knows that as you talk about the student who is resisting, your first tendency is to say, "How can I get him around so that he will accept the truth as I know it?"--- whether it's a value difference, a difference in the estimate of the situation, or whatever separates him from you.

I would say that at every stage of the chain we need to learn to put a new valuation upon resistance. When we encounter resistance as we try to communicate our influence across the barriers Ron talked about, can we see it as a possible source of learning, both for us and forthose who are doing the resisting? Until we look at it this way, we may be discarding data that are very important in better understanding the utilization process. When resistance is treated as a potential contribution to the solution, both the resistor as well as one being resisted will be using all the data available. Otherwise, I don't think we'll be establishing practical ways around the barriers and creating adequate linkages bewteen the different specialized systems--such as students and teachers, teachers and applied researchers or consultants, applied researchers or consultants and basic researchers.

The people in trouble tend to be dependent and very often those who have something to sell tend to like dependency. Thus the good student is defined as the one who doesn't resist my tender ministrations.

Lippitt: Or the good teacher as the one who wants in-service training all the time.

Benne: Yes, the teacher who, eager for in-service training says, "Please tell me, Master" and we say, "That's the good student!" Or the "tame" educational researcher about whom the basic psychologist might

say, "Now, he's good. He listens to me. He accepts my definition of the problem." So the tendency all the way along the line is to over-value dependence.

Now I worry especially about the consumer in our kind of society, which is moving into the creation and organization of professional competence at an alarming rate. I've been arguing this on efficiency grounds. I could argue it equally well on value grounds. How will the consumer get the independence to communicate his resistance accurately so that it will be seen as part of the problem to be solved—together—rather than as something to be by-passed, to be undercut, to be got around?

I remember one time I was talking to a group of nurses on "Can nurse-patient relations be human relations?" We had some evidence that they were far from it. For one thing, the nurse was resisting the patient's getting well. It seems that as soon as patients get ambulatory, they get resistant. So the hospital tends to keep them in the patient role even though the whole notion of the hospital is supposed to be a transitional, temporary system to move them out of a patient role into an outside role. I remember there was a lawyer at the meeting who had helped organize the nurses. He said, "O, Lord, if you keep on talking, I'm going to have to go out and organize the patients." Are we going to have to organize the students in order to get our relationships more mutually reciprocal? One of the strengths of the Agricultural Extension Service is the way they have encouraged the organization of farmers, farmers' wives, farm youth. Thus the Service is dealing with articulated channels for transmitting client

needs to county agents, to agricultural experiment stations, and indeed to the land-grant universities themselves. Organization may be one of the answers. It does seem that for efficiency and for ethical reasons the client should be empowered to become a full partner both in the study of research utilization and to some degree in the management of research utilization.

Lippitt: Remember in our session on the organization of the Bell Lab how they stressed the part played by the systems engineers assigned to live in each of the practice systems around the country. These men communicated in what they called the requirements of the field so the Lab could integrate basic research with hardware research, using the input from the company. And remember the agricultural team telling about the farmer who wanted to get a rust-resistant strain of seeds he knew was being worked on at the experiment station and became impatient with the extension team because they weren't getting it to him. He finally said that he wasn't going to wait for two years of research, so he went up and actually stole some from the experiment station. He wasn't going to wait any longer for research and development.

Benne: Remember we spent a lot of time with our public health group discussing how much of the opposition to fluoridation is produced by the manner in which the communication of knowledge about fluoridation seems to eliminate any choice by the ultimate consumer. I think that public health still hasn't made up its mind whether it wants to trust the consumer to choose fluoridation.

Ronald Lippitt: I want to spend a few minutes trying to report some of the

special characteristics of the utilization of knowledge problem in education as we have come to think about it, although certainly we have not made an intensive inquiry into the linkage problems in education as we have done in some of the more systematized fields.

First of all, it seems clear that in education the invention—that is, the model, the product—which is derived from theory (or in some cases from the trial and error experiences of creative practitioners) and is to be disseminated, is a much more complex phenomenon than in other fields. Usually a key part of the invention is the performance pattern of the practitioner. The invention is not simply a pill to be passed on, or a seed to be passed on, or a new fertilizer to be passed on, or a new machine to be installed. Even if the invention is curriculum material, the behavior pattern of the teacher is such a crucial part of the model-or of making the model work in a way that one would want to disseminate—it is quite hard to document what the model is. In education, adequate documentation goes far beyond the blueprint in physical engineering or the equivalent descriptive material in typical medical practice. When you talk about new inventions and teacher-pupil planning, or getting feedback from pupils to guide your role as a teacher, or conducting an inquiry discussion—using new social studies units—in all of these an indispensable part of the model is the performance pattern of the practitioner.

A second major difference is that the adoption of the new model, the new practice, is a much more complex undertaking because adoption usually involves a change in certain central characteristics of the practitioner, such as his concepts or his values, or his inter-personal

skills. There's a much deeper involvement of the self in the adoption process in contrast to the situation in agriculture, public health, and medicine. As a consequence, resistance to change is a major aspect of the adoption process in education. It may, of course, as Ken has suggested, be a creative and necessary and important aspect in order for internalization and choice-making genuinely to take place.

Havelock: It probably should be in other fields, too.

Lippitt: Probably so, because they do talk about the fad which fades out in three years as new research indicates that there is something better.

Benne: Spinach takes the calcium out of milk, and yet you have to back up and say parents shouldn't force spinach down the kids, in spite of Popeye.

Lippitt: I have said that dissemination requires much more than the written transmission of documented descriptions in order for the internalization process of adoption to go on. The third major difference is a corollary of this. Most successful adoptions in education require adaptation rather than pure adoption in the sense of using the thing as it has been used in a demonstration or on an experimental farm. This is because there are different pupils involved, there are different personal styles of the practitioner, there are different norms and resources of the local school system, and there are different patterns within the particular building. What this means is that the adopting teacher or administrator must be more sophisticated conceptually about the principles on which the model is based in order to make an appropriate adaptation. Good adapting requires some conceptual understanding

of the model, which is quite different from just taking something on because it worked somewhere else. Thus in education the successful dissemination of new practice at a level of reasonably good quality requires much better in-service training than in other fields. But the fact is that the educational system is conspicuously lacking in the network of manpower resources needed to re-educate teachers.

A related factor is that because change often involves central issues for the teacher, there is need for support for his change effort from those persons who surround him, including the direct consumers—the pupils-as well as parents, principal, and colleagues. Thus the training of an inter-personal support system, as well as the training of a direct worker, is a crucial part of the dissemination process if it is to be successful.

A fourth major difference is that there is much less motivational support and cognitive input in education to stimulate the practitioner to see the need for improvement of practice, the need to scan the horizon for new resources, the need for change. There is a lack of competition—a lack of productivity criteria on which teachers can compare themselves with others and recognize their own needs. One's own performance is not visible to others even as a safety mechanism for oneself. There is also a severe shortage of visible alternatives and an absence of data on the relative merits of the alternatives compared to what teachers are using now.

The lack of cognitive perspective on alternatives and the lack of motivational support for the need to change places teachers in a rather different situation from the ones where the practitioner can see that

the demonstration farm produces so much corn per acre when using that seed, or that so many more units of work get done by that machine, or that the fever goes down conspicuously when this new drug is used, or that anxiety rates clearly go down when a new general tranquilizer is put into effect.

A fifth major difference is that the lack of criteria for productivity—productivity being the effectiveness of learning by pupils-also means that the practitioner who adopts a new practice has a difficult time getting feedback about the success of his effort. There are no clear fever symptoms and no clear corn-per-acre change. The lack of guidance for the change effort, and for the maintenance of the energy that went into the change effort, presents a difficult problem for the teacher trying to maintain his new behavior.

Finally, a sixth major difference is that there is a conspicuous lack of trust and respect for centers of knowledge production as a relevant resource for the upgrading of practice. This is part of the inclusion that Ron was talking about. The research and development centers and the university resource teams are not seen as part of the same system that the teacher is in. It's a case of "them over there and us over here".

By contrast the agricultural experiment station and the demonstration farm and the county agent have become important and respected resources in the mind of the farmer. The farmer sees them as part of his system, something he is related to and can influence. Of course, he has long since learned the solid values derived from accepting and maintaining this linkage—of putting energy into it. The teachers have not, for

the most part, had such an experience. We have very few examples in education of providing such a linkage and having it lead to meaningful, successful, adoption-adaptation experiences.

Because education does require so much more personal interaction between the practitioners in the various parts of the system, or at least between the practitioners and the linking agents, we must remember that when a new linkage is being developed, as must be done between teachers and personnel in the new research and development centers, then there must be an outreach effort. We mustn't assume that teachers will come to us as farmers have become accustomed to going to the county agent, and as other practitioners in the biological and physical sciences have become used to looking for new material and using their linking agents to seek it out. Because this structure doesn't exist in education, and because respect for the value of the potential resources doesn't exist, a great outreach effort—peddling our wares—will be crucial in developing the educational system.

AUDIENCE DISCUSSION

Now for a question addressed to our audience: If as researchers we take seriously the idea that the diffusion process is an important phenomenon to study so as to make eventual improvements, what seem to you to be the priorities for inquiry?

Question: Shouldn't we study the learning process that goes on outside the classroom? It is not shown in any of the research utilization schemes presented here.

Benne: I think I've seen this with my students. Often they bring their

learning needs to people other than their teachers—notably to other students-and so their teachers work without any notion of where the classroom fits into the wider educational process and cannot adapt what goes on in the classroom to fit it.

Question: How do local research departments, state education departments, the U.S. Office of Education, and the new regional educational laboratories fit into Havelock's sketch?

Lippitt: You would advise us to inquire into where such agencies as those and others like local teachers associations fit into the research utilization process?

Question: Yes. And how do outside pressure groups exert influence on what is done?

Benne: We should build in the various influence agents so as to picture more accurately the state of affairs with respect to research utilization.

Question: How can we develop a desire for research utilization? Many of the matters you have discussed—the problem of inclusion, the lack of productivity criteria, and so on—could be considered better after we develop the desire to utilize scientific knowledge.

Lippitt: And yet at an educational conference last week, some groups were bemoaning the amount of innovative activity being undertaken now without any criteria. They said everybody has to have a change project in order to receive certain Federal funds. They said that in some buildings all the teachers are being asked to name their change projects for this year. But criteria for selecting a new activity and effort devoted to validating it often are non-existent.

Question: You look to in-service training to modify the practitioner behav-

ior which is so much a part of innovation in education, but what about other methods such as day-to-day supervision and assistance?

Lippitt: I would construe in-service training broadly to include those.

Question: Then can't we add the "packaging" of instructional materials as an alternative way of modifying the behavior of practitioners?

Lippitt: All right.

Question: Isn't another barrier to communication the difference in how various people conceive knowledge? The researcher has to have an open, questioning, empirical attitude; the teacher often wants to know exactly what the right answer is. As a result, teachers may not expect researchers to provide what teachers would regard as knowledge.

Lippitt: And we can add to this various other inhibitors to faith and trust.

Question: Isn't another barrier to communication the widely-held value that the teacher's realm of operation, namely the classroom, is sacrosanct? Nobody is permitted to watch what she is doing. Other professionals don't operate this way. Physicians will work in a room full of people; lawyers will work in an open court. But teachers draw the curtain around themselves so tightly that they rarely have a common experience to discuss.

Lippitt: Although it's amazing how many teachers say they wish someone would drop in occasionally and give them some support. There's probably an ambivalence.

Question: We need to question both the accuracy of the agricultural and medical diffusion models you have described and their relevance to education. We have a romanticized idea of the effectiveness of the diffusion system in agriculture. The fact of the matter is that the county agent never did reach a very large proportion of the farmers.

Agricultural productivity has gone up for many reasons—including the fact that the farmers who were not reached did not survive. Don't you think a special problem in education is that an innovation has to reach such a tremendous proportion of the practitioners in order to be effective?

Havelock: We would not point to the agricultural system—nor even to the county agent as a linker—as a perfect model for education. Yet we feel that by comparing how different fields solve the problem we can get a better idea of what the solution might be for education.

Lippitt: The agricultural system varies in effectiveness from county to county. Contact with farmers ranges from 100% in some counties to practically nil in others. Some demonstration farms are looked at; others are ignored; others are actually rebelled against—their personnel become sociometric outcasts. . .

Benne: And the demonstration farm itself becomes the private garden of the experiment station. That's what I'm afraid of in education in demonstration schools.

Question: Don't you think the research and development centers being created in education will be in great need of outreach strategies?

Lippitt: Yes. A great many have been developed in other fields of practice in the last five years. I think particularly of projects supported in the mental health and juvenile delinquency fields. Some of the better planned-parenthood programs have undergone a clear reversal from "We have a clinic and they come to it" to the active use of mobile units to take the program to lower-class women.

Benne: I'd like to return to the earlier question about different definitions

of knowledge, which Ron Lippitt related to problems of trust and confidence. I would suggest it is distinct from those. Wouldn't it be well to research the operating epistemologies of educators and to discover their operating value systems? Philosophers could collaborate in the study. At least it would be saving philosophy from irrelevance!

Lippitt: We also ought to inquire into whether the particular thing to be disseminated makes its own demands for dissemination techniques. For example, we are deeply interested in disseminating conceptual frameworks, which is quite a different thing from diffusing curriculum packages or new patterns of teacher-pupil interaction. I think that both the presentation task and the internalization task for conceptual frameworks (ours has to do with understanding the social structure of the classroom group) are not the same as for a novel social studies curriculum package.

Question: Earlier you mentioned the kind of feedback a doctor gets from his patient, which he then classifies with the help of a system of categories used in medical practice. In some work I did on the dissemination of PSSC physics, I found that teachers were enormously impressed with the opinions of the returning college students about how well the high school PSSC course had stood them in college. The trouble was that the teachers could do nothing with these opinions except listen and say, "Hmm, isn't that interesting!" and it ended there. They had no system of categories into which they could sort the students' opinions to give them relevance and utility for modifying the PSSC course—unlike the doctor who modifies the treatment on the basis of patient response.

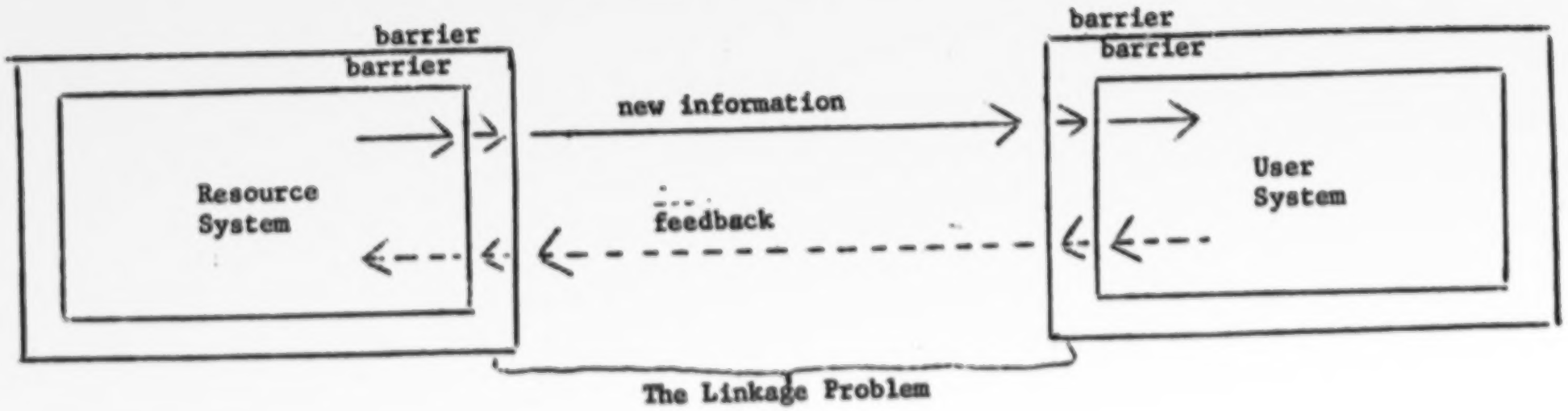
Lippitt: And of course there was no systems engineer available either to

bring the college students' reactions to the high school teacher or to consult with her on what those reactions might mean for improving the course.

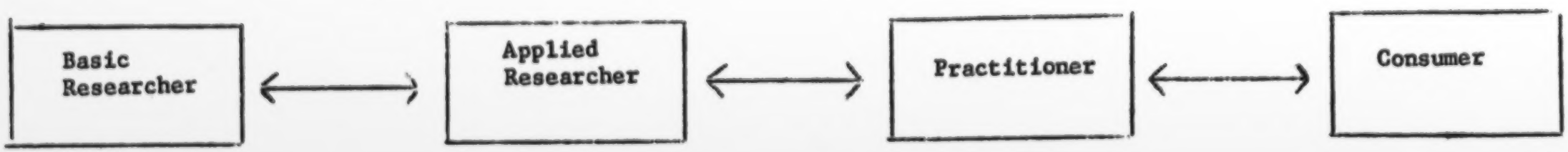
Benne: Yet the feedback loop from college to high school is certainly better than the loop from non-college experiences. As a result teachers may have become over-attentive to data available from college experiences and under-attentive to data from other possible sources.

Lippitt: Thank you. We are adjourned.

IDEAL MODEL OF UTILIZATION PROCESS

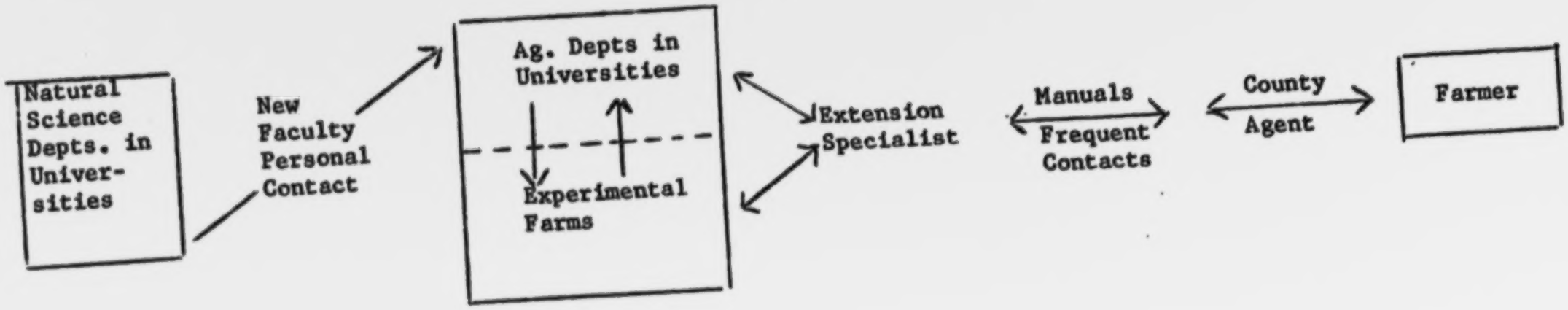


IDEAL MODEL OF UTILIZATION CHAIN

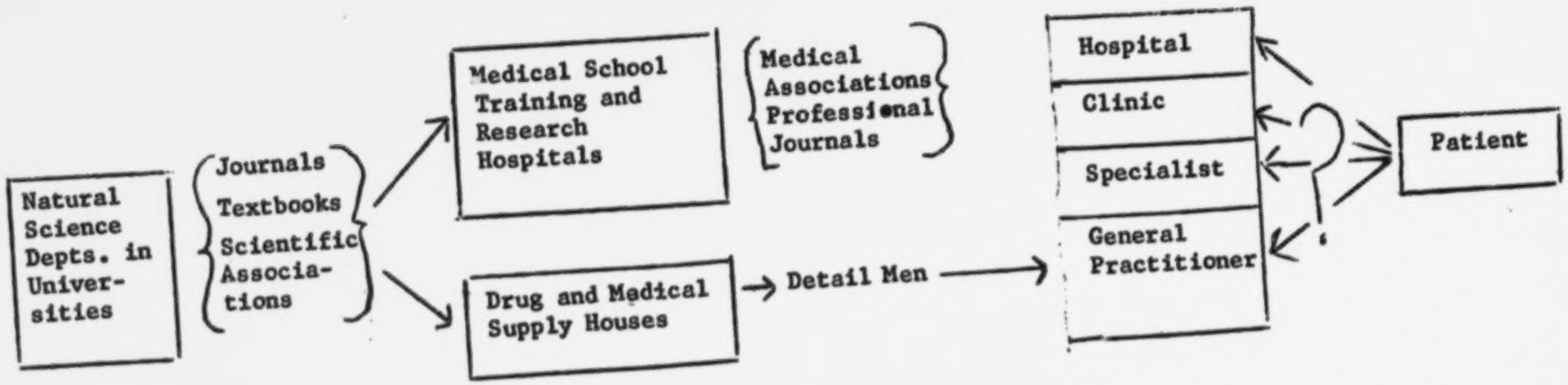


Ronald Havelock
AERA Chicago
March, 1966

AGRICULTURE MODEL

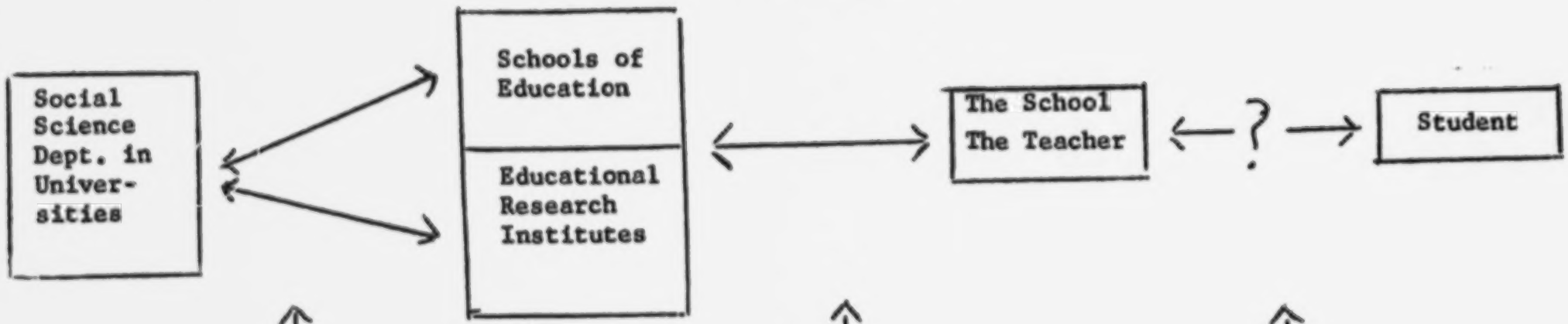


MEDICINE MODEL



Ronald Havelock
AERA Chicago
March 1966

EDUCATION MODEL



Linking Mechanisms in Education:	Journals AERA	new Teachers Newsletters Administrators Summer Schools Drive-in informers R&D Centers NEA	Peer Group? Parents

Ronald Havelock
AERA Chicago
March, 1966